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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE
BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: Shu Lin, et al.

Serial No.: 10/099,710

Confirmation No.: 2027

Filed: March 14, 2002

For: **TRICK MODE ON BIDIRECTIONAL
PREDICTIVE FRAMES**

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Group Art Unit: 2621

Examiner: James A. Fletcher

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Appellant submits this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2621 dated June 26, 2008, finally rejecting claims 1-20.

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being filed electronically to the United States Patent & Trademark Office, Mail Stop: Appeal Brief-Patents on:

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Table of Contents

<u>Appeal Brief Section</u>	<u>Page Number</u>
Real Party in interest	3
Related Appeals and Interferences	4
Status of Claims	5
Status of Amendments	6
Summary of Claimed Subject Matter	8
Grounds of Rejections to be Reviewed on Appeal	18
Argument	19
Conclusion	41
Claims Appendix	42
Evidence Appendix	46
Related Proceedings Appendix	47

APPEAL BRIEF
Ser. No. 10/099,710

Real Party in Interest

The real party in interest is Thomson Licensing.

Related Appeals and Interferences

The Appellant submitted a Notice of Appeal on August 08, 2007 followed by an Appeal Brief dated October 01, 2007. The Examiner responded to the Appellant's Appeal Brief, with a non-Final Office Action dated January 02, 2008 including a new ground(s) of rejection. Appellant asserts that no other appeals or interferences are known to the Appellant, the Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-20 were originally presented with the filed application. The Appellant's claims 1-2, 4, 8-12, 14 and 18-20 stand finally rejected under 35 U.S.C. § 102(b) as being anticipated by Duruoz et al. (6,487,642, hereinafter "Duruoz"). In addition, the Appellant's claims 5 and 15 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Duruoz. Even further, the Appellant's claims 3 and 13 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Duruoz in view of Metz et al. (US. Patent No. 5,978,855, hereinafter "Metz"). Even further, the Appellant's claims 6-7 and 16-17 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Duruoz and further in view of Duruoz (WO 96/13121).

The claims on appeal are claims 1-20 as originally presented with the filed application. That is, the claims on appeal are the Appellant's claims 1-20, which are listed in the attached Claims Appendix.

Status of Amendments

A first response was filed on January 03, 2007 to overcome a First Office Action dated September 26, 2006. In the First Office Action, the Examiner rejected the Appellant's claims 1-2, 5, 8-12, 15 and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Duruoiz (WO96/13121). The Examiner further rejected the Appellant's claims 3 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Duruoiz in view of Metz et al. (US. Patent No. 5,978,855, hereinafter "Metz") and rejected the Appellant's claims 4, 6-7, 14 and 16-17 under 35 U.S.C. § 103(a) as being unpatentable over Duruoiz further in view of Takahashi et al. (US. Patent No. 5,841,939, hereinafter "Takahashi"). In the response filed on January 03, 2007, the Appellant set forth arguments traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

The Examiner responded to the Appellant's response of January 03, 2007 with a Final Office Action dated February 15, 2007. In the Final Office Action, the Examiner again rejected the Appellant's claims 1-2, 5, 8-12, 15 and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Duruoiz and again rejected the Appellant's claims 3 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Duruoiz in view of Metz and rejected the Appellant's claims 4, 6-7, 14 and 16-17 under 35 U.S.C. § 103(a) as being unpatentable over Duruoiz further in view of Takahashi. In response to the Final Office Action dated February 15, 2007, the Appellant submitted a response dated July 10, 2007. In the response filed on July 10, 2007, the Appellant again set forth arguments traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

The Examiner responded to the Appellant's response of July 10, 2007 with an Advisory Action dated July 26, 2007. In the Advisory Action, the Examiner stated that the Appellant's response to the Final Office Action did not place the Appellant's application in condition for allowance and the Examiner reiterated the rejection of the Appellant's claims 1-20. In response to the Advisory Action, the Appellant submitted a Notice of Appeal dated August 08, 2007. Subsequent to the Notice of Appeal, the Appellant submitted an Appeal Brief dated October 01, 2007.

The Examiner responded to the Appellant's Appeal Brief of October 01, 2007 with a non-Final Office Action dated January 02, 2008. In the non-Final Office Action, the Examiner rejected the Appellant's claims 1-2, 4, 8-12, 14 and 18-20

APPEAL BRIEF
Ser. No. 10/099,710

under 35 U.S.C. § 102(b) as being anticipated by Duruoz et al. (6,487,642, hereinafter "Duruoz") and claims 5 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz. Even further, the Examiner rejected the Appellant's claims 3 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz in view of Metz et al. (US. Patent No. 5,978,855, hereinafter "Metz") and the Appellant's claims 6-7 and 16-17 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz and further in view of Duruoz (WO 96/13121). In response to the non-Final Office Action, the Appellant filed a Response dated February 28, 2008 including arguments traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

The Examiner responded to the Appellant's Response of February 28, 2008 with a Final Office Action dated June 26, 2008. In the Final Office Action, the Examiner again rejected the Appellant's claims 1-2, 4, 8-12, 14 and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Duruoz and claims 5 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz. Even further, the Examiner again rejected the Appellant's claims 3 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz in view of Metz and the Appellant's claims 6-7 and 16-17 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz and further in view of Duruoz. In response to the Final Office Action, the Appellant filed a Response dated September 25, 2008 including arguments again traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

The Examiner responded to the Appellant's response of September 25, 2008 with an Advisory Action dated October 21, 2008. In the Advisory Action, the Examiner stated that the Appellant's response to the Final Office Action did not place the Appellant's application in condition for allowance and the Examiner reiterated the rejection of the Appellant's claims 1-20. In response to the Advisory Action, the Appellant submitted a Notice of Appeal dated November 21, 2008.

Summary of Claimed Subject Matter

Embodiments of the Appellant's invention provide a method of performing a trick mode on a video signal. In one embodiment, the invention includes the steps of receiving a trick mode command, in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal in which the picture contains a display indicator, setting the display indicator of the picture being repeated to a predetermined value and setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value. In one arrangement of the invention, the trick mode can be a freeze trick mode, and the picture to be repeated can be a bidirectional predictive picture. In addition, the display indicator can be a temporal reference field having an integer value.

In an alternate embodiment, the method can further include the step transmitting at least a first reference picture and a second reference picture to predict the picture to be repeated in which each reference picture can contain a display indicator. In another embodiment, the method can further include the steps of setting the display indicator of the first reference picture to a predetermined value such that the predetermined value of the display indicator of the first reference picture can be lower than the predetermined value of the display indicators of the pictures being displayed during the trick mode and setting the display indicator of the second reference picture to a predetermined value such that the predetermined value of the display indicator of the second reference picture can be greater than the predetermined value of the display indicators of the pictures being displayed during the trick mode.

The Appellant further teaches that in another arrangement, each of the display indicators can be temporal reference fields having integer values. Also, the step of setting the display indicator of the second reference picture can include the step of setting the integer value of the temporal reference field of the second reference picture an integer value higher than the integer value of the temporal reference field of the picture being repeatedly displayed during the trick mode to maintain a proper display order. Moreover, at least a portion of the trick mode video signal can be decoded by a remote decoder.

The Appellant further teaches that an embodiment of the invention includes a system for performing a trick mode on a video signal. The system can include a controller for reading data from a storage medium and outputting the video signal and a processor programmed to receive a trick mode command; in response to the trick mode command, repeat a picture in the video signal to form a trick mode video signal in which the picture contains a display indicator, set the display indicator of the picture being repeated to a predetermined value and set the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value. The system can also further include suitable software and circuitry to implement the methods as described above.

As suggested in MPEP 1206, the Appellant now reads at least two of the broadest appealed claims on the specification and on the drawings. It should be understood, however, that the appealed claims may read on other portions of the specification or other figures that are not listed below.

The Appellant's Specification specifically refers to FIG. 1 for teaching a system 100 for implementing the various advanced operating features in accordance with the inventive arrangements. The Appellant teaches that such a system 100 can include a controller 110 for reading data from and writing data to a storage medium 112. The system 100 can also have a microprocessor 114 and a display device 118. The Appellant submits that it should be understood that all or portions of the controller 110 and the microprocessor 114 can be a bitstream source 120. The Appellant further teaches that control and data interfaces can also be provided for permitting the microprocessor 114 to control the operation of the controller 110 and other components in the bitstream source 120. In addition, suitable software or firmware can be provided in memory for the conventional operations performed by the microprocessor 114. Further, program routines can be provided for the microprocessor 114 in accordance with the inventive arrangements.

The Appellant teaches that in one embodiment of the invention, the display device 118 can contain its own decoder 116 for decoding all or a portion of any video signal read from the storage medium 112 and processed by the bitstream source 120. In this particular arrangement, the decoder (not shown) in the bitstream source 120 typically does not decode the video signal read from the storage medium 112. This particular embodiment can be referred to as a remote decoder arrangement,

and the decoder 116 in the display device 118 can be referred to as a remote decoder. The Appellant noted, however, that the invention is not limited to this arrangement, as the invention can be practiced with other suitable systems. In operation, the controller 110 can read a video signal containing a plurality of digitally encoded pictures from the storage medium 112. In one arrangement, if the microprocessor 114 receives a trick mode command, then the microprocessor 114 can repeatedly transmit a picture in the video signal to the decoder 116 thereby forming a trick mode video signal. The microprocessor 114 can execute the repeating step by transmitting repeats or duplicates of the picture to be repeated. These duplicates of the picture to be repeated during the trick mode can be referred to as subsequent repeated pictures. In one aspect of the invention, the picture to be repeated can be a bidirectional predictive (B) picture, and the trick mode can be a freeze trick mode.

It is taught in the Specification that during the trick mode, the picture being repeated can be repeatedly displayed (through the use of the subsequent repeated pictures) at the display device 118. In addition, this picture and the subsequent repeated pictures can include a display indicator, which is typically used to enable the decoder 116 to determine when a picture is to be displayed, at least relative to other pictures in a video signal. In one arrangement, the microprocessor 114 can set the display indicator of the picture to be repeated and the subsequent repeated pictures to a predetermined value to reflect an intended display order. This predetermined value of the display indicator of the picture being repeated can be the same as the predetermined value of the display indicators of the subsequent repeated pictures. In addition, the microprocessor can set to a predetermined value the display indicators of any reference frames that may be used to predict the picture to be repeated during the trick mode.

With reference to FIGs 2 and 3, the Appellant teaches an embodiment of performing a trick mode on a video signal in accordance with the Appellant's invention. More specifically, the Appellant teaches that at step 210, a trick mode command can be received. The Appellant further teaches that in one arrangement, the trick mode command can be a freeze or pause trick mode command. For purposes of the invention, a freeze trick mode can be a trick mode in which a particular picture in the video signal can be repeatedly displayed on a display device

for an amount of time determined by a viewer. The Appellant explains that although the invention is discussed primarily in terms of a freeze trick mode, it should be noted that the invention can be practiced with any other suitable trick mode.

Once the trick mode command is received, at step 212, a picture in the video signal can be repeated to form a trick mode video signal. As noted earlier, the Appellant teaches that the picture to be repeated can be a B picture, and the repeats or duplicates of this picture can be referred to as subsequent repeated pictures. In addition, the picture to be repeated and the subsequent repeated pictures can include a display indicator. It is understood, however, that the picture to be repeated is not limited to a B picture, as other suitable picture types can be used with the invention.

At step 214, the display indicator of the picture to be repeated can be set to a predetermined value. At step 216, the display indicators of subsequent repeated pictures of the picture being repeated can also be set to this predetermined value. As such, the value of the display indicator for each of the pictures to be displayed during the trick mode can be the same. The display indicator can be a temporal reference field. A temporal reference field is typically a ten bit field located in the picture header of digitally encoded pictures. This field normally has an integer value, and some decoders rely on this value to determine when a picture is to be displayed. The Appellant teaches, however, that the invention is not limited in this regard, as other suitable display indicators can be used to reflect an intended display order.

The Appellant refers to FIG. 3 for teaching an example of the process described in steps 212 – 216. Referring to FIG. 3, the Appellant teaches that a typical group of pictures (GOP) structure 300 in display order is shown. The GOP can include B pictures, predictive (P) pictures and intra (I) pictures. The subscript numbers represent integer values of each picture's temporal reference field and can indicate when a particular picture will be displayed relative to the other pictures in the GOP, at least during normal playback. For instance, the first picture in the GOP, B₀, will be displayed first followed by B₁, I₂ and so on.

The Appellant further teaches that when transmitting a B picture for decoding and display, the two reference pictures from which the B picture is predicted must be sent to the decoder and decoded before the B picture. Once the reference pictures are decoded, the B picture can be decoded, and the pictures are displayed

according to their display order, which can be obtained from the integer values of the temporal reference fields. As an example, if the reference pictures are P pictures P_5 and P_8 and the B picture B_6 is to be decoded and displayed, then P_5 and P_8 are decoded first followed by B_6 ; however, the display order is as follows: P_5 , B_6 and P_8 (for convenience, this example ignores picture B_7).

Continuing with this example, the Appellant teaches that to reflect the intended display order, the integer value of the temporal reference field of picture P_5 can be set to a predetermined value of 5, the integer value of the temporal reference field of picture B_6 can be set to 6 and the integer value of the temporal reference field of picture P_8 can be set to 8. As the reference pictures are transmitted to the decoder and decoded prior to picture B_6 , however, the value of the temporal reference fields of the reference pictures are set before the value of the temporal reference field of picture B_6 . Such a process can be problematic if a freeze trick mode is to be performed on picture B_6 (or any other B picture for that matter). Specifically, as picture B_6 is repeated, the value of the temporal reference fields of each of the subsequent repeated pictures is set to reflect their intended display order. Thus, the value of the temporal reference fields of subsequent repeated pictures of picture B_6 are incrementally increased during the freeze trick mode. As noted earlier, however, the integer value of the temporal reference field of reference picture P_8 will remain the same, and once the freeze trick mode is stopped, picture P_8 may be displayed out of order as the decoder, particularly if it is remotely located, is unaware that a trick mode has been initiated.

The Appellant further teaches that in accordance with the inventive arrangements, the integer value of picture B_6 can be set to 6, and the integer values of the temporal reference fields of subsequent repeated pictures of picture B_6 can also be set to a value of 6. Thus, referring back to flowchart 200, when the freeze trick mode is stopped at step 218, the second reference picture, P_8 , can be displayed in its proper order. The Appellant notes that the foregoing discussion is merely one example of how the invention can be practiced and that other GOP structures and other pictures can be used with the invention.

For the convenience of the Board of Patent Appeals and Interferences, the Appellant's pending claims are presented below in claim format with elements read

APPEAL BRIEF
Ser. No. 10/099,710

on the drawings and appropriate citations to at least one portion of the specification for each element of the appealed claims (with reference numerals added).

Claim 1 positively recites (with reference numerals added, where applicable):

1. A method (200) of performing a trick mode on a video signal, comprising the steps of:
 - receiving (210) a trick mode command;
 - in response to the trick mode command, repeating (212) a picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;
 - setting (214) the display indicator of the picture being repeated to a predetermined value; and
 - setting (216) the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value. (See Appellant's specification, page 8, line 8 through page 9, line 20).

Claim 2 positively recites:

2. The method according to claim 1, comprising the step of executing a freeze trick mode. (See Appellant's specification, page 8, lines 20-21).

Claim 3 positively recites:

3. The method according to claim 1, comprising the step of repeating a bidirectional predictive picture. (See Appellant's specification, page 3, lines 8-10 and page 7, lines 13-15).

Claim 4 positively recites:

4. The method according to claim 1, comprising the step of setting the display indicator as a temporal reference field having an integer value. (See Appellant's specification, page 9, lines 15-18).

Claim 5 positively recites:

5. The method according to claim 1, further comprising the step of transmitting at least a first reference picture and a second reference picture to predict the picture to be repeated, wherein each reference picture contains a display indicator. (See Appellant's specification, page 10, lines 8-16).

Claim 6 positively recites:

6. The method according to claim 5, further comprising the steps of:
 setting the display indicator of the first reference picture to a predetermined value such that the predetermined value of the display indicator of the first reference picture is lower than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode; and
 setting the display indicator of the second reference picture to a predetermined value such that the predetermined value of the display indicator of the second reference picture is greater than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode. (See Appellant's specification, page 3, lines 15-23 and page 10, line 8 through page 11, line 15).

Claim 7 positively recites:

7. The method according to claim 6, comprising the step of setting each of the display indicators as temporal reference fields having integer values; and, wherein said step of setting the display indicator of the second reference picture further comprises the step of setting the integer value of the temporal reference field of the second reference picture an integer value higher than the integer value of the temporal reference field of the picture being repeatedly displayed during the trick mode to maintain a proper display order. (See Appellant's specification, page 4, lines 2-6 and page 10, lines 17-23 and page 11, lines 14-16).

Claim 8 positively recites:

8. The method according to claim 1, further comprising the step of decoding at least a portion of the trick mode video signal at a remote location. (See Appellant's specification, page 6, line 20 through page 7, line 3 and page 8, lines 9-17).

Claim 9 positively recites:

9. A method (200) of performing a trick mode on a video signal, comprising the steps of:
 receiving (210) a freeze trick mode command;
 in response to the freeze trick mode command, repeating (212) a bidirectional predictive picture in the video signal to form a trick mode video signal, wherein the bidirectional predictive picture contains a display indicator;
 setting (214) the display indicator of the bidirectional predictive picture being repeated to a predetermined value; and

setting (216) the display indicators of subsequent repeated bidirectional predictive pictures of the bidirectional predictive picture being repeated to the predetermined value. (See Appellant's specification, page 8, line 8 through page 9, line 20).

Claim 10 positively recites:

10. The method according to claim 9, comprising the steps of implementing the receiving, repeating and both setting steps at a first location and decoding at least a portion of the trick mode video signal at a second location. (See Appellant's specification, page 6, line 20 through page 7, line 3 and page 8, lines 9-17).

Claim 11 positively recites:

11. A system (100) for performing a trick mode on a video signal, comprising:
a controller (110) for reading data from a storage medium (112) and outputting the video signal; and
a processor (114) programmed to:
receive (210) a trick mode command;
in response to the trick mode command, repeat (212) a picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;
set (214) the display indicator of the picture being repeated to a predetermined value; and
set (216) the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value. (See Appellant's specification, page 6, line 2 through page 8, line 6 and page 8, line 8 through page 9, line 20).

Claim 12 positively recites:

12. The system according to claim 11, wherein the trick mode is a freeze trick mode. (See Appellant's specification, page 7, lines 13-15).

Claim 13 positively recites:

13. The system according to claim 11, wherein the picture to be repeated is a bidirectional predictive picture. (See Appellant's specification, page 3, lines 8-10 and page 7, lines 13-15).

Claim 14 positively recites:

14. The system according to claim 11, wherein the display indicator is a temporal reference field having an integer value. (See Appellant's specification, page 9, lines 15-18).

Claim 15 positively recites:

15. The system according to claim 11, wherein the processor is further programmed to transmit at least a first reference picture and a second reference picture to predict the picture to be repeated, wherein each reference picture contains a display indicator. (See Appellant's specification, page 10, lines 8-16).

Claim 16 positively recites:

16. The system according to claim 15, wherein the processor is further programmed to:
set the display indicator of the first reference picture to a predetermined value such that the predetermined value of the display indicator of the first reference picture is lower than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode; and
set the display indicator of the second reference picture to a predetermined value such that the predetermined value of the display indicator of the second reference picture is greater than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode. (See Appellant's specification, page 3, lines 15-23 and page 10, line 8 through page 11, line 15).

Claim 17 positively recites:

17. The system according to claim 16, wherein each of the display indicators are temporal reference fields having integer values and the processor is further programmed to perform the step of setting the display indicator of the second reference picture by setting the integer value of the temporal reference field of the second reference picture an integer value higher than the integer value of the temporal reference field of the picture being repeatedly displayed during the trick mode to maintain a proper display order. (See Appellant's specification, page 4, lines 2-6 and page 10, lines 17-23 and page 11, lines 14-16).

APPEAL BRIEF
Ser. No. 10/099,710

Claim 18 positively recites:

18. The system according to claim 11, wherein at least a portion of the trick mode video signal is decoded by a remote decoder. (See Appellant's specification, page 6, line 20 through page 7, line 3 and page 8, lines 9-17).

Claim 19 positively recites:

19. A system (100) for performing a trick mode on a video signal, comprising:
a controller (110) for reading data from a storage medium (112) and outputting the video signal; and
a processor (114) programmed to:
receive (210) a freeze trick mode command;
in response to the freeze trick mode command, repeat (212) a bidirectional predictive picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;
set (214) the display indicator of the bidirectional predictive picture being repeated to a predetermined value; and
set (216) the display indicators of subsequent repeated bidirectional predictive pictures of the bidirectional predictive picture being repeated to the predetermined value. (See Appellant's specification, page 6, line 2 through page 8, line 6 and page 8, line 8 through page 9, line 20).

Claim 20 positively recites:

20. The system according to claim 19, further comprising a remote decoder for decoding at least a portion of the trick mode video signal. (See Appellant's specification, page 7, lines 1-2).

Grounds of Rejections to be Reviewed on Appeal

1. Whether the Appellant's claims 1-2, 4, 8-12, 14 and 18-20 are patentable under 35 U.S.C. § 102(b) over Duruoz (6,487,642).
2. Whether the Appellant's claims 5 and 15 are patentable under 35 U.S.C. § 103(a) over Duruoz.
3. Whether the Appellant's claims 3 and 13 are patentable under 35 U.S.C. § 103(a) over Duruoz in view of Metz et al. (US. Patent No. 5,978,855, hereinafter "Metz").
4. Whether the Appellant's claims 6-7 and 16-17 are patentable under 35 U.S.C. § 103(a) over Duruoz in view of Duruoz (WO/96/13121).
5. Pending claims 1-2, 4, 8-12, 14 and 18-20, 5 and 15, and 3 and 13 have been grouped together, respectively, by the Examiner in their rejection. Appellant urges that each of the rejected claims stands on its own recitation, the claims being considered to be separately patentable for the reasons set forth in more detail *infra*.

ARGUMENT

I. THE EXAMINER ERRED IN REJECTING CLAIMS 1-2, 4, 8-12, 14 and 18-20 UNDER 35 U.S.C. § 102 BECAUSE THE CITED REFERENCE FAILS TO ANTICIPATE AT LEAST A METHOD AND SYSTEM FOR PERFORMING TRICK MODE ON A VIDEO SIGNAL INCLUDING AT LEAST “IN RESPONSE TO THE TRICK MODE COMMAND, REPEATING A PICTURE IN THE VIDEO SIGNAL TO FORM A TRICK MODE VIDEO SIGNAL”, “SETTING THE DISPLAY INDICATOR OF THE PICTURE BEING REPEATED TO A PREDETERMINED VALUE” AND “SETTING THE DISPLAY INDICATORS OF SUBSEQUENT REPEATED PICTURES OF THE PICTURE BEING REPEATED TO THE PREDETERMINED VALUE”.

A. 35 U.S.C. § 102(b) - Claim 1

The Examiner rejected the Appellant's claim 1 under 35 U.S.C. § 102(b) as being anticipated by Duruoz (6,487,642). The rejection is respectfully traversed.

In the Final Office Action on pages 2 and 3, the Examiner mischaracterizes the Appellant's invention by specifically reciting:

“The Examiner understands the Appellant's use of ‘display indicator of the picture being repeated’ to be the number of times a frame is repeated in a slow trick play mode.”

And

“The Examiner further understands the ‘display indicators of subsequent pictures of the picture being repeated’ to mean that subsequent pictures are also repeated the same number of times...”.

The Appellant submits that it is the Examiner's misunderstanding of the Appellant's invention that is preventing the Appellant's claims from being allowed.

More specifically, the Appellant's claim 1 specifically recites:

“A method of performing a trick mode on a video signal, comprising the steps of:

receiving a trick mode command;

in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;

setting the display indicator of the picture being repeated to a predetermined value; and
setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value.” (emphasis added).

In the invention of the Appellant, at least with respect to claim 1, in response to a trick mode command, a picture in the original video signal is repeated to form a trick mode video signal. The display indicator of the picture being repeated is set to a predetermined value to determine the display order of the picture being repeated among all pictures to be displayed and the display indicators of subsequent repeated pictures of the picture being repeated are set to the predetermined value to reflect their intended display order, which is the same as the first picture being repeated. In support of at least claim 1, the Appellant in the Specification specifically recites:

"At step 214, the display indicator of the picture to be repeated can be set to a predetermined value. At step 216, the display indicators of subsequent repeated pictures of the picture being repeated can also be set to this predetermined value. As such, the value of the display indicator for each of the pictures to be displayed during the trick mode can be the same. The display indicator can be a temporal reference field. A temporal reference field is typically a ten bit field located in the picture header of digitally encoded pictures. This field normally has an integer value, and some decoders rely on this value to determine when a picture is to be displayed." (See Specification, page 9, lines 11-18). (emphasis added).

And

"Specifically, as picture B₆ is repeated, the value of the temporal reference fields of each of the subsequent repeated pictures is set to reflect their intended display order. Thus, the value of the temporal reference fields of subsequent repeated pictures of picture B₆ are typically incrementally increased during the freeze trick mode. As noted earlier, however, the integer value of the temporal reference field of reference picture P₈ will remain the same, and once the freeze trick mode is stopped, picture P₈ may be displayed out of order as the decoder, particularly if it is remotely located, is unaware that a trick mode has been initiated.

In accordance with the inventive arrangements, however, the integer value of picture B₆ can be set to 6, and the integer values of the temporal reference fields of subsequent repeated pictures of picture B₆ can also be set to a value of 6." (See Specification, page 11, lines 2-13).

The Appellant submits that it is very clear from at least the portions of the Appellant's Specification presented above that in the invention of the Appellant as claimed, the display indicator of a first picture to be repeated is set to a

predetermined value to indicate a display order of the picture to be repeated. For example, if the picture to be repeated is the sixth picture in a group of pictures having, for example, twenty pictures, then the display order of the picture to be repeated is set to six to indicate that the picture to be repeated is the sixth picture displayed. The Appellant further teaches that the display order of the subsequent repeats of the picture can also be set to the same number (e.g., six) to ensure that the subsequent repeats of the picture that was repeated are displayed at the time that the first repeat of the repeated picture because the display order of the subsequent repeats is also six.

As such, the Appellant submits that the Examiner misunderstands the Appellant's invention and as such is improperly rejecting the Appellant's claims.

That is, the Appellant submits the following:

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1983)). (emphasis added). The Appellant respectfully submits that Duruoze absolutely fails to teach each and every element of at least the Appellant's claim 1, which specifically recites:

"A method of performing a trick mode on a video signal, comprising the steps of:
receiving a trick mode command;
in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;
setting the display indicator of the picture being repeated to a predetermined value; and
setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value." (emphasis added).

The Appellant respectfully submits that Duruoze absolutely fails to teach, suggest, disclose or anticipate each and every element of the claimed invention, arranged as in at least the Appellant's independent claim 1. More specifically, the Appellant respectfully submits that there is absolutely no teaching, suggestion or disclosure in Duruoze for a method, and systems for performing a trick mode on a

APPEAL BRIEF
Ser. No. 10/099,710

video signal including at least "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1.

In contrast to the invention of the Appellant, Duruoz teaches a Command Manager. As characterized by the Examiner, Duruoz, teaches that a picture contains a display indicator and that a slow forward trick play is achieved by decrementing a counter for the repetitions of a frame to display between forward steps. That is, the Examiner concedes that Duruoz teaches where the number of times a frame is displayed is disclosed to be the reciprocal of the slow speed ratio and that as such the indicator is therefore clearly and explicitly set by the slow speed ratio. As such, the Appellant submits that Duruoz absolutely fails to teach or suggest a method, and systems for performing a trick mode on a video signal including at least "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1, because as conceded by the Examiner, Duruoz instead teaches that a display indicator of a picture being repeated is the number of times a frame is repeated in a slow tick play mode and not that a display indicator of a picture being repeated represents an intended display order of a picture being repeated as taught and claimed by the Appellant.

The Examiner again cites Col. 6, lines 56-58 of Duruoz for attempting to teach the technical feature of "setting the display indicator of the picture being repeated to a predetermined value" of the Appellant's claim 1. The Appellant disagrees. Duruoz, at Col. 6, lines 56-58, specifically recites:

“(4) "Slow Forward" which plays at an adjustable slow speed, which defaults to 1/10, i.e. each frame is repeatedly displayed ten times;”. (See Duruoz, Col. 6, lines 56-58).

As clear above, in Col. 6 of Duruoz, Duruoz teaches that the number of times a frame is displayed is disclosed to be the reciprocal of the slow speed ratio and that

as such the indicator is therefore clearly and explicitly set by the slow speed ratio as conceded by the Examiner.

However, the Appellant respectfully submits that there is absolutely no teaching, suggestion or disclosure in Duruoz for the technical feature of "setting the display indicator of the picture being repeated to a predetermined value" of the Appellant's claim 1. That is, the Appellant submits that Duruoz absolutely fails to anticipate a method and systems for performing a trick mode on a video signal including at least setting the display indicator of the picture being repeated to a predetermined value to reflect the intended display order of the repeated picture, in for example a GOP.

The Appellant further submits that Duruoz absolutely fails to anticipate "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1. The Examiner cites Fig. 13D step 367 of Duruoz for attempting to teach the technical feature of "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" of the Appellant's claim 1. The Appellant disagrees. With reference to Fig. 13D and step 367, Duruoz specifically recites:

"When the SLF state is initially entered, a single frame is decoded, and then is repeatedly displayed for the number of times identified by the repeat value. Accordingly, after step 362, in step 364 the trick play state machine enters the sub-state SLF-PLAY, during which a new frame is decoded. Subsequently, in step 366, a flag is set to indicate that processing of the SLF state is in the midst of decoding a frame. This flag is used in this and other state transition handlers to ensure that frame decoding is completed prior to a state transition. Then, processing proceeds to step 367, in which a repeat counter is initialized with the repeat value from the SLF command that was stored in step 362. The repeat counter is later used to determine the number of times that the current frame should be displayed." (See Duruoz, col. 15, lines 25-38).

As clear above, Fig. 13D and step 367 of Duruoz teaches that the display indicators of subsequent pictures are also set to the same number as the first picture such that the subsequent pictures are repeated the same number of times as conceded by the Examiner.

As such, the Appellant submits that Duruozy fails to teach each and every element of the Appellant's claimed invention, arranged as in at least the Appellant's independent claims, and specifically claim 1, as required for anticipation.

Therefore, the Appellant submits that for at least the reasons recited above, the Appellant's claim 1 is not anticipated by the teachings of Duruozy, and, as such, claim 1 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

B. 35 U.S.C. § 102(b) - Claim 2

Claim 2 depends directly from independent claim 1 and recites further technical features thereof. At least because the teachings of Duruozy absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 1, the Appellant respectfully submits that dependent claim 2 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 1. The Appellant further submits that Duruozy also fails to teach, suggest or anticipate the Appellant's claim 1 further limited by "the step of executing a freeze trick mode" as recited in claim 2.

That is, and for at least the same reasons provided in Section A above, at least because Duruozy fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1, the Appellant respectfully submits that Duruozy also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 2, which depends directly from independent claim 1.

Therefore, the Appellant submits that claim 2, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

C. 35 U.S.C. § 102(b) - Claim 4

Claim 4 depends directly from independent claim 1 and recites further technical features thereof. At least because the teachings of Duruoaz absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 1, the Appellant respectfully submits that dependent claim 4 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 1. The Appellant further submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's claim 1 further limited by "setting the display indicator as a temporal reference field having an integer value" as recited in claim 4.

That is, and for at least the same reasons provided in Section A above, at least because Duruoaz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1, the Appellant respectfully submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 4, which depends directly from independent claim 1.

Therefore, the Appellant submits that claim 4, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

D. 35 U.S.C. § 102(b) - Claim 8

Claim 8 depends directly from independent claim 1 and recites further technical features thereof. At least because the teachings of Duruoaz absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 1, the Appellant respectfully submits that dependent claim 8 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 1. The Appellant further submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's claim 1 further limited by "the step of decoding at least a portion of the trick mode video signal at a remote location" as recited in claim 8.

That is, and for at least the same reasons provided in Section A above, at least because Duruoz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least “in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal” and “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1, the Appellant respectfully submits that Duruoz also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 8, which depends directly from independent claim 1.

Therefore, the Appellant submits that claim 8, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

E. 35 U.S.C. § 102(b) - Claim 9

Claim 9 is an independent claim that recites similar relevant features as recited in the Appellant's independent claim 1. More specifically, claim 9 claims a method of performing a trick mode on a video signal including “in response to the freeze trick mode command, repeating a bidirectional predictive picture in the video signal to form a trick mode video signal, wherein the bidirectional predictive picture contains a display indicator” and “setting the display indicator of the bidirectional predictive picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated bidirectional predictive pictures of the bidirectional predictive picture being repeated to the predetermined value”.

As described in Section A above, at least because Duruoz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least “in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal” and “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1 and as similarly claimed in the Appellant's independent claim 9, the Appellant respectfully submits that Duruoz also fails to teach, suggest or

anticipate the Appellant's invention as claimed in independent claim 9, which recites similar relevant features as recited in independent claim 1.

Therefore, the Appellant submits that claim 9, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

F. 35 U.S.C. § 102(b) - Claim 10

Claim 10 depends directly from independent claim 9 and recites further technical features thereof. At least because the teachings of Duruoze absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 9, the Appellant respectfully submits that dependent claim 10 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 9. The Appellant further submits that Duruoze also fails to teach, suggest or anticipate the Appellant's claim 9 further limited by "the steps of implementing the receiving, repeating and both setting steps at a first location and decoding at least a portion of the trick mode video signal at a second location" as recited in claim 10.

That is, and for at least the same reasons provided in Sections A and E above, at least because Duruoze fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1 and 9, the Appellant respectfully submits that Duruoze also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 10, which depends directly from independent claim 9.

Therefore, the Appellant submits that claim 10, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

G. 35 U.S.C. § 102(b) - Claim 11

Claim 11 is an independent claim that recites similar relevant features as recited in the Appellant's independent claims 1 and 9. More specifically, claim 11 claims a system of performing a trick mode on a video signal including "a processor programmed to" "in response to the trick mode command, repeat a picture in the video signal to form a trick mode video signal" and "set the display indicator of the picture being repeated to a predetermined value" and "set the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value".

As described in Sections A and E above, at least because Duruoz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1 and 9 and as similarly claimed in the Appellant's independent claim 11, the Appellant respectfully submits that Duruoz also fails to teach, suggest or anticipate the Appellant's invention as claimed in independent claim 11, which recites similar relevant features as recited in independent claims 1 and 9.

Therefore, the Appellant submits that claim 11, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

H. 35 U.S.C. § 102(b) - Claim 12

Claim 12 depends directly from independent claim 11 and recites further technical features thereof. At least because the teachings of Duruoz absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 11, the Appellant respectfully submits that dependent claim 12 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 11. The Appellant further submits that Duruoz also fails to teach, suggest or anticipate the Appellant's claim 11 further limited by "wherein the trick mode is a freeze trick mode" as recited in claim 12.

That is, and for at least the same reasons provided in Sections A, E and G above, at least because Duruoaz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least “in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal” and “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1, 9 and 11, the Appellant respectfully submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 12, which depends directly from independent claim 11.

Therefore, the Appellant submits that claim 12, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

I. 35 U.S.C. § 102(b) - Claim 14

Claim 14 depends directly from independent claim 11 and recites further technical features thereof. At least because the teachings of Duruoaz absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 11, the Appellant respectfully submits that dependent claim 14 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 11. The Appellant further submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's claim 11 further limited by “wherein the display indicator is a temporal reference field having an integer value” as recited in claim 14.

That is, and for at least the same reasons provided in Sections A, E and G above, at least because Duruoaz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least “in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal” and “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1, 9 and 11, the Appellant respectfully submits that Duruoaz also fails to teach,

suggest or anticipate the Appellant's invention as claimed in dependent claim 14, which depends directly from independent claim 11.

Therefore, the Appellant submits that claim 14, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

J. 35 U.S.C. § 102(b) - Claim 18

Claim 18 depends directly from independent claim 11 and recites further technical features thereof. At least because the teachings of Duruoz absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 11, the Appellant respectfully submits that dependent claim 18 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 11. The Appellant further submits that Duruoz also fails to teach, suggest or anticipate the Appellant's claim 11 further limited by "wherein at least a portion of the trick mode video signal is decoded by a remote decoder" as recited in claim 18.

That is, and for at least the same reasons provided in Sections A, E and G above, at least because Duruoz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1, 9 and 11, the Appellant respectfully submits that Duruoz also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 18, which depends directly from independent claim 11.

Therefore, the Appellant submits that claim 18, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

K. 35 U.S.C. § 102(b) - Claim 19

Claim 19 is an independent claim that recites similar relevant features as recited in the Appellant's independent claims 1, 9 and 11. More specifically, claim 19 claims a system of performing a trick mode on a video signal including "a processor

programmed to” “in response to the freeze trick mode command, repeat a bidirectional predictive picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator” and “set the display indicator of the picture being repeated to a predetermined value” and “set the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value”.

As described in Sections A, E and G above, at least because Duruoaz fails to teach, suggest or anticipate at least a method and system of performing a trick mode on a video signal including at least “in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal” and “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1, 9 and 11 and as similarly claimed in the Appellant's independent claim 19, the Appellant respectfully submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's invention as claimed in independent claim 19, which recites similar relevant features as recited in independent claims 1, 9 and 11.

Therefore, the Appellant submits that claim 19, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

L. 35 U.S.C. § 102(b) - Claim 20

Claim 20 depends directly from independent claim 19 and recites further technical features thereof. At least because the teachings of Duruoaz absolutely fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 19, the Appellant respectfully submits that dependent claim 20 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 19. The Appellant further submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's claim 19 further limited by "a remote decoder for decoding at least a portion of the trick mode video signal" as recited in claim 20.

That is, and for at least the same reasons provided in Sections A, E, G and K above, at least because Duruoaz fails to teach, suggest or anticipate at least a

APPEAL BRIEF
Ser. No. 10/099,710

method and system of performing a trick mode on a video signal including at least “in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal” and “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1, 9, 11 and 19, the Appellant respectfully submits that Duruoz also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 20, which depends directly from independent claim 19.

Therefore, the Appellant submits that claim 20, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

II. THE EXAMINER ERRED IN REJECTING CLAIMS 5 AND 15 UNDER 35 U.S.C. § 103 AT LEAST BECAUSE THE CITED REFERENCES FAIL TO MAKE OBVIOUS AT LEAST A METHOD AND SYSTEM FOR PERFORMING TRICK MODE ON A VIDEO SIGNAL INCLUDING AT LEAST “IN RESPONSE TO THE TRICK MODE COMMAND, REPEATING A PICTURE IN THE VIDEO SIGNAL TO FORM A TRICK MODE VIDEO SIGNAL”, “SETTING THE DISPLAY INDICATOR OF THE PICTURE BEING REPEATED TO A PREDETERMINED VALUE” AND “SETTING THE DISPLAY INDICATORS OF SUBSEQUENT REPEATED PICTURES OF THE PICTURE BEING REPEATED TO THE PREDETERMINED VALUE”.

A. 35 U.S.C. § 103(a) - Claims 5 and 15

The Examiner rejected the Appellant's claims 5 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz. The rejection is respectfully traversed.

The Appellant respectfully submits that “To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art” (MPEP §2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). Moreover, “[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious” (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Claims 5 and 15 depend directly from the Appellant's independent claims 1 and 11, respectively, and thus, include all the elements of claims 1 and 11. With respect to claims 5 and 15, the Examiner applied the teachings of Duruoz for the rejection of the Appellant's claims 5 and 15 as applied above for the rejections of the Appellant's independent claims 1 and 11. As recited above and for at least the reasons recited above and specifically that Duruoz fails to teach, suggest or anticipate "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1 and claim 11, the Appellant respectfully submits that Duruoz absolutely fails to teach, suggest or anticipate at least the Appellant's claims 1 and

11. As such, the Appellant further submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's claims 5 and 15, which depend directly from the Appellant's claims 1 and 11, respectively.

As such, the Appellant respectfully submits that Duruoaz fails to teach, suggest or make obvious a method and system for performing a trick mode on a video signal including "repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1 and claim 11. Therefore and for at least the reasons recited above, the Appellant respectfully submits that the teachings of Duruoaz fail to teach, suggest or make obvious the Appellant's claim 1 and claim 11 and as such, the Appellant's claims 5 and 15, which depend directly from the Appellant's claims 1 and 11, are also not rendered obvious.

Therefore, the Appellant submits that for at least the reasons recited above, the Appellant's claims 5 and 15 are not rendered obvious by the teachings of Duruoaz, and, as such, fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

III. THE EXAMINER ERRED IN REJECTING CLAIMS 3 AND 13 UNDER 35 U.S.C. § 103 AT LEAST BECAUSE THE CITED REFERENCES FAIL TO MAKE OBVIOUS AT LEAST A METHOD AND SYSTEM FOR PERFORMING TRICK MODE ON A VIDEO SIGNAL INCLUDING AT LEAST “IN RESPONSE TO THE TRICK MODE COMMAND, REPEATING A PICTURE IN THE VIDEO SIGNAL TO FORM A TRICK MODE VIDEO SIGNAL”, “SETTING THE DISPLAY INDICATOR OF THE PICTURE BEING REPEATED TO A PREDETERMINED VALUE” AND “SETTING THE DISPLAY INDICATORS OF SUBSEQUENT REPEATED PICTURES OF THE PICTURE BEING REPEATED TO THE PREDETERMINED VALUE”.

A. 35 U.S.C. § 103(a) - Claims 3 and 13

The Examiner rejected the Appellant's claims 3 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Duruoz as applied to the claims above, and further in view of Metz et al. (US. Patent No. 5,978,855, hereinafter “Metz”). The rejection is respectfully traversed.

The Appellant respectfully submits that “To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art” (MPEP §2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). Moreover, “[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious” (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Claims 3 and 13 depend directly from the Appellant's independent claims 1 and 11, respectively, and thus, include all the elements of claims 1 and 11. With respect to claims 3 and 13, the Examiner applied the teachings of Duruoz for the rejection of the Appellant's claims 3 and 13 as applied above for the rejections of the Appellant's independent claims 1 and 11. As recited above and for at least the reasons recited above and specifically that Duruoz fails to teach, suggest or anticipate "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the

Appellant's claim 1 and claim 11, the Appellant respectfully submits that Duruoaz absolutely fails to teach, suggest or anticipate at least the Appellant's claims 1 and 11. As such, the Appellant further submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's claims 3 and 13, which depend directly from the Appellant's claims 1 and 11, respectively.

Furthermore, the Appellant respectfully submits that the teachings of Metz absolutely fail to bridge the substantial gap between the teachings of Duruoaz and the invention of the Appellant. More specifically, Metz teaches the downloading of applications software through a broadcast channel. In Metz, application software is downloaded and audio/video information is transmitted through one channel of a digital broadcast network. The network of Metz also provides two-way, low-speed data communications capacity, e.g. for signaling and/or interactive text services. Metz, however, absolutely fails to teach, suggest or make obvious "in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's independent claims.

As such, the Appellant respectfully submits that Duruoaz and Metz, alone or in any allowable combination, fail to teach, suggest or make obvious a method and system for performing a trick mode on a video signal including "repeating a picture in the video signal to form a trick mode video signal" and "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1 and claim 11. Therefore and for at least the reasons recited above, the Appellant respectfully submits that the teachings of Duruoaz and Metz, alone or in any allowable combination, fail to teach, suggest or make obvious the Appellant's claim 1 and claim 11 and as such, the Appellant's claims 3 and 13, which depend directly from the Appellant's claims 1 and 11 are also not rendered obvious.

Therefore, the Appellant submits that for at least the reasons recited above, the Appellant's claims 3 and 13 are not rendered obvious by the teachings of Duruoaz

APPEAL BRIEF
Ser. No. 10/099,710

and Metz, alone or in any allowable combination, and, as such, fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

IV. THE EXAMINER ERRED IN REJECTING CLAIMS 6-7 AND 16-17 UNDER 35 U.S.C. § 103 AT LEAST BECAUSE THE CITED REFERENCES FAIL TO MAKE OBVIOUS AT LEAST A METHOD AND SYSTEM FOR PERFORMING TRICK MODE ON A VIDEO SIGNAL INCLUDING AT LEAST “IN RESPONSE TO THE TRICK MODE COMMAND, REPEATING A PICTURE IN THE VIDEO SIGNAL TO FORM A TRICK MODE VIDEO SIGNAL”, “SETTING THE DISPLAY INDICATOR OF THE PICTURE BEING REPEATED TO A PREDETERMINED VALUE” AND “SETTING THE DISPLAY INDICATORS OF SUBSEQUENT REPEATED PICTURES OF THE PICTURE BEING REPEATED TO THE PREDETERMINED VALUE”.

A. 35 U.S.C. § 103(a) - Claims 6-7 and 16-17

The Examiner rejected the Appellant's claims 6-7 and 16-17 under 35 U.S.C. § 103(a) as being unpatentable over Duruozy as applied to the claims above, and further in view of McLaren (WO 96/13121). The rejection is respectfully traversed.

The Appellant respectfully submits that “To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art” (MPEP §2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). Moreover, “[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious” (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Claims 6-7 and 16-17 depend either directly or indirectly from the Appellant's independent claims 1 and 11, respectively, and thus, include all the elements of claims 1 and 11. With respect to claims 6-7 and 16-17, the Examiner applied the teachings of Duruozy for the rejection of the Appellant's claims 6-7 and 16-17 as applied above for the rejections of the Appellant's independent claims 1 and 11. As recited above and for at least the reasons recited above and specifically that Duruozy fails to teach, suggest or anticipate “in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal” and “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1 and claim 11, the Appellant respectfully

submits that Duruoaz absolutely fails to teach, make obvious or anticipate at least the Appellant's claims 1 and 11. As such, the Appellant further submits that Duruoaz also fails to teach, suggest or anticipate the Appellant's claims 6-7 and 16-17, which depend either directly or indirectly from the Appellant's claims 1 and 11, respectively.

Furthermore, the Appellant respectfully submits that the teachings of McLaren absolutely fail to bridge the substantial gap between the teachings of Duruoaz and the invention of the Appellant. More specifically, the Appellant respectfully submits that there is absolutely no teaching, suggestion or disclosure in McLaren for a method, and systems for performing a trick mode on a video signal including at least "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1.

In contrast to the invention of the Appellant, McLaren teaches a method and apparatus for generating an MPEG compatible digital image representative signal for recording which facilitates reproduction at more than one speed. In McLaren, a digital video cassette recorder ("DVCR") records MPEG video. The DVCR receives an MPEG video signal and generates trick play I frames from I frames located in the MPEG video signal. These trick play I frames are grouped together to form trick play video signals of varying speeds, which are then recorded onto a tape together with the originally received MPEG video signal to facilitate non-standard replay speed. In particular, additional I frame data streams are generated specifically for each predetermined replay speed and are written within recorded tracks. For example, recorded tracks can be provided for 5X, 18X and 35X replay speeds. When a trick mode is initiated, one of the pre-recorded trick play video signals can be played back in place of the normal playback signal.

In contrast to McLaren, the Appellant's invention is directed at least in part to a method of performing a trick mode on a video signal including "setting the display indicator of the picture being repeated to a predetermined value" and "setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value".

As recited above, McLaren instead and in contrast to the invention of the Appellant, teaches that a pre-recorded trick play video signal can be played back in

place of a normal playback signal during a trick play mode. That is, in McLaren trick play signals of various speeds are pre-recorded and a specific one of the pre-recorded signals are played to accomplish a requested trick play mode. However, in the invention of McLaren pictures in the video signal are not repeated to form a trick mode video signal and there is not teaching of “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value”.

As such, the Appellant respectfully submits that Duruoz and McLaren, alone or in any allowable combination, fail to teach, suggest or make obvious a method and system for performing a trick mode on a video signal including “setting the display indicator of the picture being repeated to a predetermined value” and “setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value” as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1 and claim 11. Therefore and for at least the reasons recited above, the Appellant respectfully submits that the teachings of Duruoz and McLaren, alone or in any allowable combination, fail to teach, suggest or make obvious the Appellant's claim 1 and claim 11.

Therefore, the Appellant submits that for at least the reasons recited above, the Appellant's claims 6-7 and 16-17 are not rendered obvious by the teachings of Duruoz and McLaren, alone or in any allowable combination, and, as such, claims 6-7 and 16-17 fully satisfies the requirements of 35 U.S.C. § 103 and are patentable thereunder.

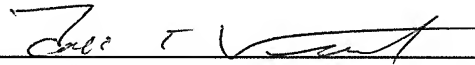
Conclusion

Thus, the Appellant submits that none of the claims presently in the application are anticipated under the provisions of 35 U.S.C. § 102 or obvious under the provisions of 35 U.S.C. § 103. Consequently, the Appellant believes all these claims are presently in condition for allowance.

For at least the reasons advanced above, the Appellant respectfully urges that the rejection of claims 1-2, 4, 8-12, 14 and 18-20 as being anticipated under 35 U.S.C. §102 and the rejection of claims 5 and 15, 3 and 13 and 6-7 and 16-17 as being obvious under 35 U.S.C. §103 are improper. Reversal of the rejections in this Appeal is respectfully requested.

Respectfully submitted,

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Date



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CLAIMS APPENDIX

1. (Original) A method of performing a trick mode on a video signal, comprising the steps of:
 - receiving a trick mode command;
 - in response to the trick mode command, repeating a picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;
 - setting the display indicator of the picture being repeated to a predetermined value; and
 - setting the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value.
2. (Original) The method according to claim 1, comprising the step of executing a freeze trick mode.
3. (Original) The method according to claim 1, comprising the step of repeating a bidirectional predictive picture.
4. (Original) The method according to claim 1, comprising the step of setting the display indicator as a temporal reference field having an integer value.
5. (Original) The method according to claim 1, further comprising the step of transmitting at least a first reference picture and a second reference picture to predict the picture to be repeated, wherein each reference picture contains a display indicator.
6. (Original) The method according to claim 5, further comprising the steps of:
 - setting the display indicator of the first reference picture to a predetermined value such that the predetermined value of the display indicator of the first reference picture is lower than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode; and

setting the display indicator of the second reference picture to a predetermined value such that the predetermined value of the display indicator of the second reference picture is greater than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode.

7. (Original) The method according to claim 6, comprising the step of setting each of the display indicators as temporal reference fields having integer values; and, wherein said step of setting the display indicator of the second reference picture further comprises the step of setting the integer value of the temporal reference field of the second reference picture an integer value higher than the integer value of the temporal reference field of the picture being repeatedly displayed during the trick mode to maintain a proper display order.

8. (Original) The method according to claim 1, further comprising the step of decoding at least a portion of the trick mode video signal at a remote location.

9. (Original) A method of performing a trick mode on a video signal, comprising the steps of:

receiving a freeze trick mode command;

in response to the freeze trick mode command, repeating a bidirectional predictive picture in the video signal to form a trick mode video signal, wherein the bidirectional predictive picture contains a display indicator;

setting the display indicator of the bidirectional predictive picture being repeated to a predetermined value; and

setting the display indicators of subsequent repeated bidirectional predictive pictures of the bidirectional predictive picture being repeated to the predetermined value.

10. (Original) The method according to claim 9, comprising the steps of implementing the receiving, repeating and both setting steps at a first location and decoding at least a portion of the trick mode video signal at a second location.

11. (Original) A system for performing a trick mode on a video signal, comprising:

a controller for reading data from a storage medium and outputting the video signal; and

a processor programmed to:

receive a trick mode command;

in response to the trick mode command, repeat a picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;

set the display indicator of the picture being repeated to a predetermined value; and

set the display indicators of subsequent repeated pictures of the picture being repeated to the predetermined value.

12. (Original) The system according to claim 11, wherein the trick mode is a freeze trick mode.

13. (Original) The system according to claim 11, wherein the picture to be repeated is a bidirectional predictive picture.

14. (Original) The system according to claim 11, wherein the display indicator is a temporal reference field having an integer value.

15. (Original) The system according to claim 11, wherein the processor is further programmed to transmit at least a first reference picture and a second reference picture to predict the picture to be repeated, wherein each reference picture contains a display indicator.

16. (Original) The system according to claim 15, wherein the processor is further programmed to:

set the display indicator of the first reference picture to a predetermined value such that the predetermined value of the display indicator of the first reference picture is lower than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode; and

set the display indicator of the second reference picture to a predetermined value such that the predetermined value of the display indicator of the second reference picture is greater than the predetermined value of the display indicator of the picture being repeatedly displayed during the trick mode.

17. (Original) The system according to claim 16, wherein each of the display indicators are temporal reference fields having integer values and the processor is further programmed to perform the step of setting the display indicator of the second reference picture by setting the integer value of the temporal reference field of the second reference picture an integer value higher than the integer value of the temporal reference field of the picture being repeatedly displayed during the trick mode to maintain a proper display order.

18. (Original) The system according to claim 11, wherein at least a portion of the trick mode video signal is decoded by a remote decoder.

19. (Original) A system for performing a trick mode on a video signal, comprising:
a controller for reading data from a storage medium and outputting the video signal; and
a processor programmed to:
receive a freeze trick mode command;
in response to the freeze trick mode command, repeat a bidirectional predictive picture in the video signal to form a trick mode video signal, wherein the picture contains a display indicator;
set the display indicator of the bidirectional predictive picture being repeated to a predetermined value; and
set the display indicators of subsequent repeated bidirectional predictive pictures of the bidirectional predictive picture being repeated to the predetermined value.

20. (Original) The system according to claim 19, further comprising a remote decoder for decoding at least a portion of the trick mode video signal.

EVIDENCE APPENDIX

Appellant asserts that there is no evidence to be submitted in accordance with this section.

RELATED PROCEEDINGS APPENDIX

Appellant asserts that there are no copies of decisions to be submitted in accordance with this section.